

WHAT IS CLAIMED:

1. A lighting device, comprising,
an array of LED's consisting of plural columns and rows, wherein each row of
5 LED's in each column is connected in series and each column is connected in
parallel.
2. The lighting device of claim 1, wherein the LED array is connected in series to
one or more LED arrays to form a module.
3. The lighting device of claim 1, wherein each column in the LED array contains at
10 least one row of one or more LED's.
4. The lighting device of claim 3, wherein each column in the LED array contains at
least two or more rows of LED's.
5. The lighting device of claim 4, wherein the LED array contains at least two or
more columns.
- 15 6. The lighting device of claim 1, wherein the LED's connected in series are
supplied with the same amount of current so that each LED emits the same
brightness.
7. The lighting device of claim 1, wherein each of the two or more LED's in each
column is also supplied with the same amount of current so that each column emits
20 the same brightness.
8. The lighting device 3, wherein each module is connected in series to one or more
modules.

9. The lighting device 3, wherein each module is connected in parallel to one or more modules.
10. A method of making a lighting device, comprising,
- providing an array of LED's consisting of plural columns and rows,
- 5 wiring each row of LED's in each column in series, and
- wiring each column in parallel.
11. The method of claim 10, comprising,
- connecting the LED array in series or parallel to one or more LED arrays
- to form a module.
- 10 12. The method of claim 10, comprising,
- providing the LED's connected in series with the same amount of current
- so that each LED emits the same brightness.
13. The method of claim 10, comprising,
- providing the LED's connected in parallel with the same amount of
- 15 current so that each LED emits the same brightness.
14. The lighting device of claim 1, wherein the LED's are driven by a full-wave bridge rectifier circuit.
15. The lighting device of claim 1, wherein the LED's are driven by a circuit in which
- an AC-DC supply is used to charge a low-ESR capacitor to a voltage that is
- 20 substantially higher than the low-current operating voltage of the LED.
16. The lighting device of claim 15, wherein a string of LED's is placed in series with
- a high-current MOSFET switch across the capacitor.

17. The method of claim 10, wherein the LED's are driven by a full-wave bridge rectifier circuit.

18. The method of claim 10, wherein the LED's are driven by a circuit in which an AC-DC supply is used to charge a low-ESR capacitor to a voltage that is substantially
5 higher than the low-current operating voltage of the LED.

19. The method of claim 18, wherein a string of LED's is placed in series with a high-current MOSFET switch across the capacitor.

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